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(54) Title: DELIVERING TO EUKARYOTIC CELLS BACTERIAL PROTEINS THAT ARE SECRETED VIA TYPE III SECRE-
TION SYSTEMS

(57) Abstract: The present invention relates to a method for delivering effector proteins into a target cell. This method involves introducing into the target cell an effector protein fused to a protein transduction domain of a human immunodeficiency virus TAT protein or derivatives or functional analogs thereof. The present invention also relates to a fusion protein including an effector protein fused to a protein transduction domain of a human immunodeficiency virus TAT protein or derivatives or functional analogs thereof. Another aspect of the present invention relates to a DNA construct including a first DNA molecule encoding an effector protein and a second DNA molecule operatively associated with the first DNA molecule and encoding a protein transduction domain of a human immunodeficiency virus TAT protein or derivatives or functional analogs thereof and its use in a method for delivering effector proteins into a target cell.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/94977

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : Please See Extra Sheet.

US CL : 424/192.1, 193.1, 197.11; 435/440; 530/350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 424/192.1, 193.1, 197.11; 435/440; 530/350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CAPLUS, MEDLINE, BIOSIS, SCISEARCH, WEST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GALAN et al. Type III Secretion Machines: Bacterial Devices for Protein Delivery into Host Cells. Science. 21 May 1999, Vol. 284, pages 1322-1328, see entire document.	1-13
Y	ALFANO et al. The Type III (Hrp) Secretion Pathway of Plant Pathogenic Bacteria: Trafficking Harpins, Avr Proteins, and Death. Journal of Bacteriology. September 1997, Vol. 179, No. 18, pages 5655-5662, see entire document.	1-13
Y	SCHWARZE et al. In Vivo Protein Transduction: Delivery of a Biologically Active Protein into the Mouse. Science. 03 September 1999, Vol. 285, pages 1569-1572, see entire document.	1-13

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"A" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
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International application No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FAWELL et al. Tat-Mediated Delivery of Heterologous Proteins into Cells. Proceedings of the National Academy of Sciences, U.S.A. January 1994, Vol. 91, pages 664-668, see entire document.	1-13

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